National Aeronautics and Space Administration

A Look at NASA

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NASA Weekly Update

Week of March 26 – April 2, 2007

March 29: NASA Astronaut to Run Boston Marathon in Space: NASA astronaut Suni Williams will go faster than anyone has ever gone in the Boston Marathon. She will run the famed race in April as an

Astronaut Sunita L. Williams, Expedition 14 flight engineer, equipped with a bungee harness, exercises on the Treadmill Vibration Isolation System.

official entrant from 210 miles above Earth aboard the International Space Station. This will be the first time an astronaut in space will be an official participant in a marathon. Williams hopes her unique run will serve as an inspiration. Television and still imagery of Williams' efforts are expected to be available. Video of her training on the International Space Station will air on NASA TV's Video File. For streaming video and schedule information, visit: http://www.nasa.gov/ntv. For more information about the Boston Marathon, visit: http://www.bostonmarathon.org/. For more about the space station, its missions and crews, visit: http://www.nasa.gov/station.

March 26: NASA Announces Medical Review Team Members: On Monday, NASA announced the committee members who will conduct a comprehensive review of health services, including behavioral health care, available to astronauts. The committee will review current NASA healthcare systems and medical policies, standards and certifications for astronauts. In April, they will travel to NASA's Johnson Space Center, Houston, to review documents and interview personnel involved in NASA's human spaceflight program, including astronauts. Air Force Col. Dr. Richard E. Bachmann chairs the group of external experts. Bachmann is an expert in aerospace medicine with experience in providing medical support to people who conduct operations in extreme environments. For information about NASA's Office of the Chief Health and Medical Officer, visit: http://ohp.nasa.gov/ochamo/.

March 27: NASA Announces Aeronautics Research Opportunities: NASA's Aeronautics Research Mission Directorate has amended its NASA Research Announcement to solicit additional research proposals. The "Research Opportunities in Aeronautics" announcement seeks research in several new topic areas for the Next Generation Air Transportation System Air Traffic Management Airspace Project and the Subsonic Fixed Wing Project. Specific evaluation criteria, deadlines and points of contact for this and additional research topics in other project areas are available in the announcement at: http://nspires.nasaprs.com. For more information about NASA's Aeronautics Research Mission Directorate, visit: http://www.aeronautics.nasa.gov.

March 26: Sally Ride Science STS-118 Educator Institutes at Two NASA Centers: Sally Ride Science, in partnership with Northrop Grumman and NASA, is offering an Educator Institute on April 21, 2007, at NASA's Johnson Space Center in Houston, Texas and on May 5, 2007, at the Jet Propulsion Laboratory in Pasadena, Calif. These one-day professional development programs for upper elementary and middle school science teachers will focus on the upcoming flight of Barbara Morgan, the first Educator Astronaut. The institutes will include presentations about the STS-118 mission, hands-on workshops and a keynote address by a NASA astronaut. For more

information about the Educator Institutes and to register online, visit: http://www.sallyrideeducators.com/.

March 30: NASA Announces First Lichten Internship Award Winner: NASA's Aeronautics Research Mission Directorate, in cooperation with the American Helicopter Society International (AHS), selected Eric Greenwood II from the University of Maryland, University Park, as its first NASA AHS Lichten Internship Award winner. Greenwood will receive an eight-week, NASA-sponsored internship to be split between Ames Research Center in Moffett Field, Calif., and Langley Research Center in Hampton, Va. Both centers are active in helicopter noise research as part of NASA's Subsonic Rotary Wing Project. Greenwood will spend the summer immersed in NASA rotary wing science and technology projects. For more information about NASA's Aeronautics Research Mission Directorate, visit: http://www.aeronautics.nasa.gov.

March 30: NASA Awards Contract for Hardware Assurance Testing: On Friday, NASA announced the selection of Pratt and Whitney Rocketdyne, Inc., of Canoga Park, Calif., to provide hardware assurance testing at NASA's Stennis Space Center. The estimated total value of the contract is $80 million.

March 29: NASA Selects Firms for SEWP IV Contracts: NASA has awarded 45 commercial, fixed price, indefinite delivery, indefinite quantity contracts to 37 vendors under the Solutions for Enterprise-Wide Procurement IV (SEWP IV). The principal purpose of the SEWP IV contracts is to provide customers with state-of-the-art computer technologies, high-end scientific and engineering processing capabilities, network equipment and peripherals. The prime contractor awardees are listed at: http://www.sewp.nasa.gov.

March 28: NASA Extends Johnson Center Operations Support Contract: NASA has awarded a $30.4 million extension of the Center Operations Support Services (COSS) Contract for Johnson Space Center to Computer Sciences Corp. of Fort Worth, Texas. The contract, which begins April 1, has a base period of six months followed by five one-month options.

Weekly Status Reports

Atlantis
Mission: STS-117 - 21st International Space Station Flight (13A) - S3/S4 Truss Segment Solar Arrays
Vehicle: Atlantis (OV-104)
Location: Vehicle Assembly Building
Launch Date: Targeted for April 2007
Launch Pad: 39A
Crew: Sturckow, Archambault, Reilly, Swanson, Forrester and Olivas
Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Shuttle program managers will meet on or about April 10 to decide whether to use ET-124 or substitute it with a new tank, ET-117, which is scheduled to arrive at KSC in early April.

Endeavor
Mission: STS-118 - 22nd International Space Station Flight (13A.1) - S5 Truss Segment
Vehicle: Endeavour (OV-105)
Location: Orbiter Processing Facility Bay 2
Launch Date: Targeted for June 28, 2007
Launch Pad: 39A
Crew: Kelly, Hobaugh, Williams, Morgan, Mastracchio, Caldwell and Anderson
Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Endeavour remains in Orbiter Processing Facility bay 2, and technicians continue preparing the vehicle for its first launch in more than four years.

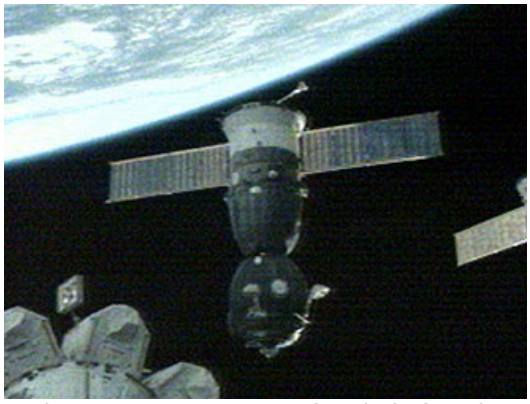
Discovery
Mission: STS-122 - 24th International Space Station Flight (1E) - Columbus Laboratory
Vehicle: Discovery (OV-103)
Location: Orbiter Processing Facility Bay 3
Launch Date: Targeted for Fall 2007
Launch Pad: 39A
Crew: Frick, Poindexter, Walheim, Love, Melvin, Schlegel and Eyharts
Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Processing of Discovery, which returned from the STS-116 mission on Dec. 22, continues in Orbiter Processing Facility bay 3.

The Expedition 14 crew of the International Space Station continued preparations for the April arrival of a new station crew by boarding their Soyuz TMA-9 craft and taking a 24-minute flight from one station docking port to another. Flight Engineer Mikhail Tyurin guided the Soyuz away from the Earth-facing port of the station's Zarya module and docked it to the aft port of the Zvezda module. The move frees the Zarya port for the arrival of the Expedition 15 crew aboard the Soyuz TMA-10, scheduled to dock to the station on April 9.

Tyurin undocked the Soyuz from Zarya at 5:30 p.m. CDT and redocked to the Zvezda port at 5:54 p.m. CDT as the station and the Soyuz flew 210 miles

above the east coast of South America. Minutes later, hooks and latches engaged between the Soyuz' docking probe and Zvezda's docking port to attach the craft firmly to the station. During the time from undocking to redocking, the crew traveled about a third of the way around the world. To prepare for Thursday's undocking and relocation, Commander Michael Lopez-Alegria and flight engineers Tyurin and Sunita Williams



The Soyuz TMA-9 spacecraft undocks from the station's Zarya module.

shut down key station systems and configured the complex for autonomous operations in the unlikely event they would not be able to redock.

Prior to undocking, Tyurin activated the Soyuz' backup battery as a precaution when the prime spacecraft battery indicated a slightly lower voltage reading. It was quickly determined that the voltage drop was due to the activation of some Soyuz systems, and the prime battery soon returned to its normal voltage output. Late Thursday into early Friday, the crew will open the hatch to the Soyuz, re-enter the station and reactivate systems for regular activity. Friday will be an off-duty day for the crew as they readjust their sleep cycles, which were changed to accommodate the Soyuz move.

Further preparation for the Soyuz relocation included the undocking and discarding of the ISS Progress 23 cargo craft from the aft Zvezda port on Tuesday, March 27, making room for the Soyuz to redock. That activity went smoothly; the ISS Progress undocked at 1:11 p.m. CDT and re-entered Earth's atmosphere at 5:44 p.m. Additional work for the crew this week included a first for the Synchronized Position Hold, Engage, Reorient, Experimental Satellites (SPHERES) experiment. The experiment uses 8-inch diameter spherical satellites that fly within the station cabin. The satellites test the basics of formation flight and autonomous docking that could be used in future spacecraft. The battery-powered satellites use carbon dioxide to fuel 12 thrusters as they fly in the cabin.

During a weekend "Saturday Science" session, Williams conducted a SPHERES experiment run. This was the first time three satellites flew together in tests. Investigators for the Massachusetts Institute of Technology, Cambridge, deemed the experiment highly successful. Back on Earth, Expedition 15 cosmonauts Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov, along with spaceflight participant Charles Simonyi, a U.S. businessman, prepared for their April 7 launch at the Baikonur Cosomodrome, Kazakhstan. For more about the crew's activities and station sighting opportunities, visit: http://www.nasa.gov/station.

Upcoming Events

- **April 3:** NOAA/NASA reception to promote knowledge and understanding of space weather and its effects on life and society in conjunction with the Space Weather Enterprise Forum meeting from 5:30 to 7:00 pm in the Rayburn House Office Building. The event is open to all Members of Congress and staff. The event is sponsored by Ball Aerospace and Technologies Corporation. To RSVP, please email: SWEFRSVP@ball.com.
- **April 7:** Launch of the Expedition 15 crew. The crew includes Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov. Sunita Williams will finish her remaining time of her six-month tour of duty on the station as a member of Expedition 15 crew.
- **April 18:** Landing of the Expedition 14 crew at Kazakhstan's Baikonur Cosmodrome. The crew includes Commander Michael Lopez-Alegria, Flight Engineer Mikhail Tyurin, and Flight Engineer Sunita Williams.
- **Targeted for Late April:** Launch of Space Shuttle Atlantis from Kennedy Space Center for mission STS-117 to the International Space Station.

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